



SAFETY DATA SHEET

Dacfill PU Topcoat

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : Dacfill PU Topcoat
Product description : Coating.
Product type : Liquid.
UFI : QK21-10E8-500V-GRX2

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Industrial Professional	
Uses advised against	Reason
Consumer	Product is not intended for consumer use.

1.3 Details of the supplier of the safety data sheet

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Tor Coatings Limited
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Telephone no.: +44 (0) 191 4106611
Fax no.: +44 (0) 191 4920125
enquiries@tor-coatings.com

e-mail address of person responsible for this SDS : rpmeurohas@rustoleum.eu

1.4 Emergency telephone number

National advisory body/Poison Centre

Supplier

Telephone number United Kingdom: : +44 870 8200418 / +44 2038073798
Great Britain
Hours of operation : 24 / 7

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to UK CLP/GHS

Skin Sens. 1, H317
Aquatic Chronic 3, H412

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

SECTION 2: Hazards identification

2.2 Label elements

Hazard pictograms :



Signal word :

Warning

Hazard statements :

H317 - May cause an allergic skin reaction.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

General :

Not applicable.

Prevention :

P280 - Wear protective gloves.
P284 - In case of inadequate ventilation wear respiratory protection.

Response :

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Storage :

Not applicable.

Disposal :

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients :

1,6-hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate
hexamethylene-1,6-diisocyanate oligomer (type uretdione)
polyhexamethylene diisocyanate
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers

Supplemental label elements :

EUH204 - Contains isocyanates. May produce an allergic reaction.
EUH211 - Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

Supplemental label elements : Detergents - Regulation (EC) No 907/2006 :

Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles :

As from August 24 2023 adequate training is required before industrial or professional use.

Special packaging requirements

Containers to be fitted with child-resistant fastenings :

Not applicable.

Tactile warning of danger :

Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII :

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification :

None known.

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SECTION 3: Composition/information on ingredients**3.2 Mixtures**

: Mixture

Product/ingredient name	Identifiers	%	Classification	Type
1,6-hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl) carbamate	EC: 411-700-4 CAS: 140921-24-0 Index: 616-079-00-5	≤10	Skin Sens. 1, H317	[1]
Solvent naphtha (petroleum), light arom.	REACH #: 01-2119455851-35 EC: 265-199-0 CAS: 64742-95-6 Index: 649-356-00-4	≤6,5	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1]
propylene carbonate	EC: 203-572-1 CAS: 108-32-7 Index: 607-194-00-1	≤5	Eye Irrit. 2, H319	[1]
reaction mass of 2-ethylhexyl (3-isocyanato-4-methylphenyl) carbamate and 2-ethylhexyl (5-isocyanato-2-methylphenyl) carbamate and 2-ethylhexyl (3-isocyanato-2-methylphenyl) carbamate	REACH #: 01-2120800690-65	<3	Eye Irrit. 2, H319 Skin Sens. 1B, H317 Repr. 2, H361fd Aquatic Chronic 4, H413	[1]
hexamethylene-1,6-diisocyanate oligomer (type uretdione)	REACH #: 01-2119488177-26 CAS: 28182-81-2	≤3	Acute Tox. 3, H331 Skin Sens. 1, H317 STOT SE 3, H335	[1]
polyhexamethylene diisocyanate	REACH #: 01-2119485796-17 CAS: 28182-81-2	≤3	Acute Tox. 4, H332 Skin Sens. 1, H317 STOT SE 3, H335	[1]
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	REACH #: 01-2119488734-24 EC: 500-125-5 CAS: 53880-05-0	≤3	Skin Sens. 1B, H317 STOT SE 3, H335	[1]
(bis(isopropyl)naphthalene)	REACH #: 01-2119565150-48 EC: 254-052-6 CAS: 38640-62-9	≤1,8	Asp. Tox. 1, H304 Aquatic Chronic 1, H410 (M=1)	[1]
hydrocarbons, aromatic, C9	REACH #: 01-2119455851-35 EC: 918-668-5	<1	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	[1]
2-ethylhexanal	EC: 204-596-5 CAS: 123-05-7	≤0,3	Flam. Liq. 3, H226 Skin Sens. 1B, H317 Repr. 2, H361	[1]
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	EC: 223-861-6 CAS: 4098-71-9 Index: 615-008-00-5	≤0,1	Acute Tox. 1, H330 Skin Corr. 1C, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 2, H411	[1]
maleic anhydride	REACH #: 01-2119472428-31 EC: 203-571-6 CAS: 108-31-6 Index: 607-096-00-9	<0,001	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT RE 1, H372 (respiratory system) (inhalation) EUH071	[1] [2]

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SECTION 3: Composition/information on ingredients

See Section 16 for the full text of the H statements declared above.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

This mixture contains ≥ 1% of titanium dioxide. The Annex VI classification of titanium dioxide does not apply to this mixture according to Note 10.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

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SECTION 4: First aid measures

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous combustion products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 sulfur oxides
 halogenated compounds
 metal oxide/oxides

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.
- Additional information** : No unusual hazard if involved in a fire.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SECTION 6: Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limits**

Product/ingredient name	Exposure limit values
maleic anhydride	EH40/2005 WELs (United Kingdom (UK), 1/2020) Inhalation sensitiser. STEL 15 minutes: 3 mg/m ³ . TWA 8 hours: 1 mg/m ³ .

Biological exposure indices

No exposure indices known.

SECTION 8: Exposure controls/personal protection

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Solvent naphtha (petroleum), light arom.	DNEL	Long term Dermal	25 mg/kg	Workers	Systemic
	DNEL	Long term Inhalation	150 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	11 mg/kg	General population	Systemic
	DNEL	Long term Inhalation	32 mg/m ³	General population	Systemic
	DNEL	Long term Oral	11 mg/kg	General population	Systemic
hexamethylene-1,6-diisocyanate oligomer (type uretdione)	DNEL	Short term Inhalation	0,7 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	0,35 mg/m ³	Workers	Local
polyhexamethylene diisocyanate	DNEL	Short term Inhalation	1 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	0,5 mg/m ³	Workers	Local
(bis(isopropyl)naphthalene)	DNEL	Long term Oral	2,1 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Dermal	2,1 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	7,4 mg/m ³	General population [Consumers]	Systemic
	DNEL	Long term Dermal	4,3 mg/kg bw/day	Workers	Systemic
hydrocarbons, aromatic, C9	DNEL	Long term Inhalation	30 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	150 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	25 mg/kg	Workers	Systemic
	DNEL	Long term Dermal	11 mg/kg	General population	Systemic
	DNEL	Long term Inhalation	32 mg/m ³	General population	Systemic
maleic anhydride	DNEL	Long term Oral	11 mg/kg	General population	Systemic
	DNEL	Short term Inhalation	0,8 mg/m ³	Workers	Systemic
	DNEL	Short term Dermal	0,04 mg/kg	Workers	Systemic
	DNEL	Long term Inhalation	0,4 mg/m ³	Workers	Systemic

PNECs

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SECTION 8: Exposure controls/personal protection

Product/ingredient name	Compartment Detail	Value	Method Detail
hexamethylene-1,6-diisocyanate oligomer (type uretdione)	Fresh water	>0,05 mg/l	-
	Marine	>0,005 mg/l	-
	Fresh water sediment	>1,33 mg/kg dwt	-
	Marine water sediment	>0,133 mg/kg dwt	-
	Soil	>0,066 mg/kg dwt	-
	Sewage Treatment Plant	55,6 mg/l	-
polyhexamethylene diisocyanate	Fresh water	0,127 mg/l	-
	Marine	0,0127 mg/l	-
	Fresh water sediment	266700 mg/kg dwt	-
	Marine water sediment	26670 mg/kg dwt	-
	Soil	53182 mg/kg dwt	-
	Sewage Treatment Plant	38,28 mg/l	-
(bis(isopropyl)naphthalene)	Sewage Treatment Plant	0,15 mg/l	-
	Fresh water	0,26 µg/l	-
	Marine	0,026 µg/l	-
	Fresh water sediment	0,94 mg/kg dwt	-
	Marine water sediment	0,094 mg/kg dwt	-
	Soil	0,19 mg/kg dwt	-
maleic anhydride	Fresh water	0,04281 mg/l	-
	Marine water	0,004281 mg/l	-
	Soil	0,0415 mg/l	-
	Fresh water sediment	0,334 mg/kg	-
	Marine water sediment	0,0334 mg/kg	-
	Sewage Treatment Plant	44,6 mg/l	-

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Use eye protection according to EN 166. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

SECTION 8: Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): nitrile rubber (0.5mm)
The recommendation for the type or types of glove to use when handling this product is based on information from the following source: EN374. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: (EN 467) Wear overalls or long sleeved shirt.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: organic vapour filter (Type A) particulate filter (EN 140)
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

- Physical state** : Liquid.
- Colour** : Grey.
- Odour** : Odourless.
- Odour threshold** : Not available.
- Melting point/freezing point** : 0°C [Literature]
- Initial boiling point and boiling range** : 135°C (275°F) [Literature]
- Flammability (solid, gas)** : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts. Non-flammable but will burn on prolonged exposure to flame or high temperature.
- Lower and upper explosion limit** : Not available.
- Flash point** : Closed cup: 102°C (215,6°F) [Literature]
- Auto-ignition temperature** : Not relevant due to nature of the product.
- Decomposition temperature** : Not available.
- pH** : Not applicable.
- pH : Justification** : Product is non-soluble (in water).
- Viscosity** : Dynamic (room temperature): 7000 to 9000 mPa·s [DIN EN ISO 3219]
Kinematic (room temperature): 4798 to 6508 mm²/s [calculated.]
Kinematic (40°C): >20,5 mm²/s
- Solubility(ies)** :

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SECTION 9: Physical and chemical properties

Media	Result
cold water	Soluble
hot water	Soluble
methanol	Very slightly soluble
acetone	Very slightly soluble

Solubility in water	: Not available.
Partition coefficient: n-octanol/ water	: Not applicable.
Vapour pressure	: 2,3 kPa (17,25 mm Hg) [Literature]
Evaporation rate	: <1 (butyl acetate = 1)
Relative density	: Not available.
Density	: 1,383 to 1,459 g/cm ³ [20°C (68°F)] [DIN 53217]
Vapour density	: >1 [Air = 1]
Explosive properties	: Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat. No unusual hazard if involved in a fire.
Oxidising properties	: Not available.
Particle characteristics	
Median particle size	: Not applicable.

SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: No specific data.
10.5 Incompatible materials	: No specific data.
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
Solvent naphtha (petroleum), light arom.	LD50 Oral	Rat	8400 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	18500 mg/m ³	1 hours
hexamethylene-1,6-diisocyanate oligomer (type uretdione)	LC50 Inhalation Dusts and mists	Rat	0,158 mg/l	4 hours
	LD50 Oral	Rat	>5000 mg/kg	-
polyhexamethylene diisocyanate	LC50 Inhalation Dusts and mists	Rat - Female	0,39 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-

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SECTION 11: Toxicological information

3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours
(bis(isopropyl)naphthalene)	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Vapour	Rat	5,64 mg/l	4 hours
hydrocarbons, aromatic, C9	LD50 Dermal	Rat	>4500 mg/kg	-
	LD50 Oral	Rat	>4000 mg/kg	-
2-ethylhexanal	LD50 Oral	Rat	8400 mg/kg	-
	LD50 Dermal	Rabbit	4135 mg/kg	-
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	LD50 Oral	Rat	2600 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	0,031 mg/l	4 hours
maleic anhydride	LD50 Dermal	Rabbit	2620 mg/kg	-
	LD50 Oral	Rat	400 mg/kg	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Dacfill PU Topcoat	N/A	N/A	N/A	N/A	14,5
Solvent naphtha (petroleum), light arom.	8400	N/A	N/A	N/A	N/A
hexamethylene-1,6-diisocyanate oligomer (type uretdione)	N/A	N/A	N/A	N/A	0,5
polyhexamethylene diisocyanate	N/A	N/A	N/A	N/A	1,5
hydrocarbons, aromatic, C9	8400	N/A	N/A	N/A	N/A
2-ethylhexanal	2600	4135	N/A	N/A	N/A
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	N/A	N/A	N/A	N/A	0,031
maleic anhydride	400	2620	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Solvent naphtha (petroleum), light arom.	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters	-
	propylene carbonate	Eyes - Moderate irritant Skin - Moderate irritant	Rabbit Human	- -	60 milligrams 72 hours 100 milligrams Intermittent
hexamethylene-1,6-diisocyanate oligomer (type uretdione)	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
	Eyes - Cornea opacity	Rabbit	1	-	-
polyhexamethylene diisocyanate	Skin - Oedema	Rabbit	1	4 hours	-
	Eyes - Cornea opacity	Rabbit	1	-	-
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
	Skin - Oedema	Rabbit	1	4 hours	-
(bis(isopropyl)naphthalene)	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
	Eyes - Cornea opacity	Rabbit	1	-	-
hydrocarbons, aromatic, C9	Skin - Oedema	Rabbit	0	-	-
	Eyes - Mild irritant	Rabbit	-	24 hours 100	-

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SECTION 11: Toxicological information

2-ethylhexanal	Skin - Mild irritant	Rabbit	-	UI 425 milligrams	-
maleic anhydride	Eyes - Severe irritant	Rabbit	-	1 Percent	-

Skin : Based on available data, the classification criteria are not met.

Eyes : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Respiratory or skin sensitization

Product/ingredient name	Route of exposure	Species	Result
hexamethylene-1,6-diisocyanate oligomer (type uretdione)	skin	Guinea pig	Sensitising
polyhexamethylene diisocyanate	Respiratory	Guinea pig	Not sensitizing
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	skin	Guinea pig	Sensitising
	skin	Mouse	Sensitising
	skin	Guinea pig	Sensitising
(bis(isopropyl)naphthalene)	skin	Mouse	Sensitising
	skin	Rabbit	Sensitising
	skin	Guinea pig	Not sensitizing

Skin : May cause an allergic skin reaction.

Respiratory : Based on available data, the classification criteria are not met.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
hexamethylene-1,6-diisocyanate oligomer (type uretdione)	OECD 476	Subject: Mammalian-Animal	Positive
polyhexamethylene diisocyanate	OECD 471	Subject: Bacteria	Negative
	OECD 471	Subject: Bacteria	Negative
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	OECD 476	Subject: Mammalian-Animal	Negative
	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
(bis(isopropyl)naphthalene)	OECD 473	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 473+476	Experiment: In vitro Subject: Mammalian-Animal	Negative

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
(bis(isopropyl)naphthalene)	Negative - Route of exposure unreported - TD	Rat	-	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
hydrocarbons, aromatic, C9	-	-	Negative	Mammal - species unspecified	Route of exposure unreported	-

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SECTION 11: Toxicological information**Conclusion/Summary** : Based on available data, the classification criteria are not met.**Teratogenicity****Conclusion/Summary** : Based on available data, the classification criteria are not met.**Specific target organ toxicity (single exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
Solvent naphtha (petroleum), light arom.	Category 3	-	Respiratory tract irritation
hexamethylene-1,6-diisocyanate oligomer (type uretdione)	Category 3	-	Narcotic effects
polyhexamethylene diisocyanate	Category 3	-	Respiratory tract irritation
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	Category 3	-	Respiratory tract irritation
hydrocarbons, aromatic, C9	Category 3	-	Respiratory tract irritation
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Category 3	-	Narcotic effects
	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
maleic anhydride	Category 1	inhalation	respiratory system

Aspiration hazard

Product/ingredient name	Result
Solvent naphtha (petroleum), light arom. (bis(isopropyl)naphthalene) hydrocarbons, aromatic, C9	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on likely routes of exposure : Not available.**Potential acute health effects****Eye contact** : No known significant effects or critical hazards.**Inhalation** : No known significant effects or critical hazards.**Skin contact** : May cause an allergic skin reaction.**Ingestion** : No known significant effects or critical hazards.**Symptoms related to the physical, chemical and toxicological characteristics****Eye contact** : No specific data.**Inhalation** : No specific data.**Skin contact** : Adverse symptoms may include the following:
irritation
redness**Ingestion** : No specific data.**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Short term exposure****Potential immediate effects** : Not available.**Potential delayed effects** : Not available.**Long term exposure**

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Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
hexamethylene-1,6-diisocyanate oligomer (type uretdione) polyhexamethylene diisocyanate	Sub-acute NOAEL Inhalation Dusts and mists	Rat	0,41 mg/m ³	6 hours; 5 days per week Intermittent
	Sub-chronic LC50 Inhalation Dusts and mists	Rat	14,7 mg/m ³	6 hours; 5 days per week Intermittent
	Sub-acute LC50 Inhalation Dusts and mists	Rat	89,9 mg/m ³	6 hours; 5 days per week Intermittent
	Sub-acute LCLo Inhalation Dusts and mists	Rat	4,3 mg/m ³	6 hours; 5 days per week Intermittent
	Chronic NOAEL Inhalation Dusts and mists	Rat	3,3 mg/m ³	6 hours; 5 days per week Intermittent
(bis(isopropyl)naphthalene)	Chronic NOAEL Oral	Rat	170 mg/kg	6 months

Conclusion/Summary : Based on available data, the classification criteria are not met.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
hexamethylene-1,6-diisocyanate oligomer (type uretdione)	Acute EC50 5560 mg/l	Bacteria - Activated sludge	3 hours
	Acute EC50 >100 mg/l Acute IC50 >1000 mg/l	Daphnia spec. Algae - <i>Scenedesmus subspicatus</i>	48 hours 72 hours
polyhexamethylene diisocyanate	Acute LC50 >100 mg/l Acute EC50 >10000 mg/l	Fish - Zebra barbel Bacteria - Activated sludge	96 hours 3 hours
	Acute EC50 >100 mg/l Acute IC50 >1000 mg/l	Daphnia spec. Algae - <i>Scenedesmus subspicatus</i>	48 hours 72 hours
(bis(isopropyl)naphthalene)	Acute LC50 >100 mg/l	Fish - Zebra barbel	96 hours
	Acute EC10 >0,15 mg/l	Algae	72 hours
	Acute EC10 >0,16 mg/l	Daphnia spec.	48 hours
maleic anhydride	Acute LC10 >0,5 mg/l	Fish	96 hours
	Acute NOEC >0,013 mg/l	Daphnia spec.	21 days
	Acute LC50 230000 µg/l Fresh water	Fish - Western mosquitofish - <i>Gambusia affinis</i> - Adult	96 hours

Conclusion/Summary : Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

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SECTION 12: Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
propylene carbonate hexamethylene- 1,6-diisocyanate oligomer (type uretdione)	OECD 301B	83,5 to 87,7 % - 29 days	-	-
	OECD 302C	18 % - Not readily - 28 days	-	-
polyhexamethylene diisocyanate	OECD 301C	1 % - Not readily - 28 days	-	-
	-	1 % - Not readily - 21 days	-	-
3-Isocyanatomethyl- 3,5,5-trimethylcyclohexyl isocyanate, oligomers	OECD 301C	2 % - Not readily - 28 days	-	-
	OECD 301F	0 % - Not readily - 28 days	-	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Solvent naphtha (petroleum), light arom.	-	-	Readily
hexamethylene- 1,6-diisocyanate oligomer (type uretdione)	Fresh water 0,25 days, 23°C	50%; 0.03 day(s)	Not readily
polyhexamethylene diisocyanate	Fresh water 0,32 days, 23°C	50%; 0.49 day(s)	Not readily
3-Isocyanatomethyl- 3,5,5-trimethylcyclohexyl isocyanate, oligomers	-	-	Not readily
(bis(isopropyl)naphthalene) hydrocarbons, aromatic, C9	Fresh water 2,5 days, 20°C	>70%; < 28 day(s)	Readily
3-isocyanatomethyl- 3,5,5-trimethylcyclohexyl isocyanate	-	-	Readily
	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Solvent naphtha (petroleum), light arom.	-	10 to 2500	High
propylene carbonate	-0,41	-	Low
hexamethylene- 1,6-diisocyanate oligomer (type uretdione)	5,54	367,7	Low
polyhexamethylene diisocyanate	5,54	367,7	Low
(bis(isopropyl)naphthalene) hydrocarbons, aromatic, C9	6,081	1800 to 6400	High
2-ethylhexanal	3,07	10 to 2500	High
3-isocyanatomethyl- 3,5,5-trimethylcyclohexyl isocyanate	0,99	-	Low
maleic anhydride	-2,78	-	Low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Nonvolatile liquid.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

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SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance.

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

Waste catalogue

Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not available.

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed above the relevant limit.

Substances of very high concern

None of the components are listed above the relevant limit.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Product/ingredient name	%	Designation [Usage]
Dacfill PU Topcoat	≥90	3

Labelling : As from August 24 2023 adequate training is required before industrial or professional use.

Other EU regulations

VOC : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

VOC for Ready-for-Use Mixture : 2004/42/EC - IIA/i: 500g/l (2010). ≤ 150g/l VOC.

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

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SECTION 15: Regulatory information

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

CN code : 3208 90 91 00

Inventory list

Australia	: At least one component is not listed.
Canada	: At least one component is not listed.
China	: At least one component is not listed.
Eurasian Economic Union	: Russian Federation inventory : Not determined.
Japan	: Japan inventory (CSCL) : At least one component is not listed. Japan inventory (ISHL) : At least one component is not listed.
New Zealand	: At least one component is not listed.
Philippines	: At least one component is not listed.
Republic of Korea	: At least one component is not listed.
Taiwan	: At least one component is not listed.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: Not determined.
15.2 Chemical safety assessment	: This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms	: ATE = Acute Toxicity Estimate GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = GB CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number SGG = Segregation Group vPvB = Very Persistent and Very Bioaccumulative
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Procedure used to derive the classification

Classification	Justification
Skin Sens. 1, H317 Aquatic Chronic 3, H412	Calculation method Calculation method

Full text of abbreviated H statements

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SECTION 16: Other information

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH071	Corrosive to the respiratory tract.

Full text of classifications

Acute Tox. 1	ACUTE TOXICITY - Category 1
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Aquatic Chronic 4	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Resp. Sens. 1	RESPIRATORY SENSITISATION - Category 1
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Corr. 1C	SKIN CORROSION/IRRITATION - Category 1C
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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IMPORTANT NOTE: The information in this Safety Data Sheet is based on the present state of knowledge and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. The information contained in this data sheet (as may be amended from time to time) is not intended to be exhaustive and is presented in good faith and believed to be correct as of the date on which it is prepared. It is the user's responsibility to verify that this data sheet is current prior to using the product to which it relates. Persons using the information must make their own determinations as to the suitability of the relevant product for their purposes prior to use. Where those purposes are other than as specifically recommended in this safety data sheet, then the user uses the product at their own risk.

MANUFACTURER'S DISCLAIMER: the conditions, methods and factors affecting the handling, storage,

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SECTION 16: Other information

application, use and disposal of the product are not under the control and knowledge of the manufacturer. Therefore the manufacturer does not assume responsibility for any adverse events which may occur in the handling, storage, application, use, misuse or disposal of the product and, so far as permitted by applicable law, the manufacturer expressly disclaims liability for any and all loss, damages and/or expenses arising out of or in any way connected to the storage, handling, use or disposal of the product. Safe handling, storage, use and disposal are the responsibility of the users. Users must comply with all applicable health and safety laws.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.